L3 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5

TI Method for diagnosing restenosis following coronary vessel intervention

AB A method is described for diagnosing restenosis following coronary vessel intervention by measuring human lipocalin-type prostaglandin D synthase (**L-PGDS**) in a body fluid sample (e.g., blood , **urine**). More particularly, this method comprises measuring the L-PGDS concn. in the sample by an immunoassay and diagnosing restenosis following coronary vessel intervention using its time course as an index.

SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2

IN Seiki, Kosuke; Oda, Hiroshi; Nakashima, Hiroshi; Sato, Nobuyuki; Urade, Yoshihiro; Uehara, Yoshio; Inoue, Akio

L3 ANSWER 10 OF 15 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN DUPLICATE 8

TI Immunofluorometric assay of prostaglandin D synthase in human tissue extracts and fluids

AB A two-site sandwich-type assay for human prostaglandin D (PGD) synthase (**beta-trace**) was developed with two monoclonal antibodies and using time-resolved fluorometry as the detection technique, The assay is precise (CVs <10%), accurate, and highly specific for PGD sythase and has a detection limit of 0.05 mu g/L. Using this assay, we measured PGD synthase concentrations in serum, **urine**, amniotic fluid, cerebrospinal fluid (CSF), seminal plasma, breast cyst fluid, breast discharge fluid, breast milli, and breast tumor extracts. The highest concentrations were found in CSF, We identified proteolytic degradation of PGD synthase in amniotic fluid. Fetal tissues contained various amounts of the enzyme, with the highest values being found in brain and heart, In placental extracts, PGD synthase content was greatest at 11-28 weeks of gestation-in accordance with the concentrations measured in amniotic fluids for this gestational period. We conclude that PGD synthase is ubiquitous and is present in many fluids and tissues of adults and fetuses, This first quantitative and sensitive assay of PGD synthase should facilitate expansion of knowledge on this enzyme and possibly will have applications for diagnosis and monitoring of human diseases.

SO CLINICAL CHEMISTRY, (DEC 1996) Vol. 42, No. 12, pp. 1984-1991.
Publisher: AMER ASSOC CLINICAL CHEMISTRY, 2101 L STREET NW, SUITE 202, WASHINGTON, DC 20037-1526.
ISSN: 0009-9147.

AU Melegos D N; Diamandis E P (Reprint); Oda H; Urade Y; Hayaishi O

L3 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 9

TI Quantitative sandwich enzyme-linked immunosorbent assay for human secretory prostaglandin D synthase (.beta.-trace)

AB Glutathione-independent prostaglandin D synthase is responsible for the biosynthesis of prostaglandin D2, an endogenous sleep-promoting substance, in the central nervous system of various mammals including humans. This enzyme is localized in the choroid plexus, leptomeninges, and oligodendrocytes of the central nervous system and is secreted into the cerebrospinal fluid as .beta.-trace protein, a major constituent of human cerebrospinal fluid. Two monoclonal antibodies against human .beta.-trace (1B7 and 10A3) were prepd. by immunization of BALB/c mice with the recombinant protein expressed in Escherichia coli. Western blot anal. with human cerebrospinal fluid revealed that both 1B7 and 10A3 antibodies were immunoreactive toward a single protein at the same position as that of the purified .beta.-trace (Mr=27,000). A quant. sandwich ELISA was constructed with these two monoclonal antibodies. The assay system showed a linearity in the range from 0.06 to 4.00 ng .beta.-trace/well (100 .mu.l). The **.beta.-trace** concn. was detd. by the immunoassay to be 11.30.+-.2.54 .mu.g/mL in human cerebrospinal fluid, 1.25.+-.0.37 .mu.g/mL in the **urine**, and 0.27.+-.0.01 .mu.g/mL in the serum.

SO Proceedings of the Japan Academy, Series B: Physical and Biological Sciences (1996), 72B(5), 108-111
CODEN: PJABDW; ISSN: 0386-2208

AU Oda, Hiroshi; Eguchi, Naomi; Urade, Yoshihiro; Hayaishi, Osamu

GLYCOBIOLOGY

Glycobiology, Vol 7, 499-506, Copyright © 1997 by Society for Glycobiology

ORIGINAL ARTICLES

Molecular characterization of beta-trace protein in human serum and urine: a potential diagnostic marker for renal diseases

A Hoffmann, M Nimtz and HS Conradt
Gesellschaft fur Biotechnologische Forschung, Department of Molecular Biology, Braunschweig, Germany.

We have isolated beta-trace protein from cerebrospinal fluid, serum, plasma, and urine samples of normal volunteers and sera and hemofiltrate of patients with chronic renal failure. Blood-derived and urinary beta-trace have significantly higher molecular weights than their cerebrospinal fluid counterpart, the amino acid sequences being identical. Oligosaccharide structural analysis revealed these molecular weight differences to be due to different N-glycosylation. beta-Trace from hemofiltrate and urine has larger sugar chains and concurrently significantly higher sialylation than cerebrospinal fluid-beta-trace which bears truncated "brain-type" oligosaccharide chains (published previously). beta-Trace concentrations were about 40 ng/ml for normal sera and plasma. 2000-6000 ng/ml were measured in sera of dialysis patients whereas in normal human cerebrospinal fluid, beta-trace concentration was about 8000 ng/ml. A reduced amount of 900 ng/ml was found in a single case of hydrocephalus cerebri. The sialylated glycoforms of beta-trace detected in the blood are presumably derived from resorbed cerebrospinal fluid protein whereas beta-TP-molecules bearing asialo-oligosaccharides are absent due to their hepatic clearance. The residual, sialylated beta-TP-species are probably eliminated from the blood via the kidney. This physiological clearance mechanism for the sialylated glycoforms is disturbed in hemodialysis patients resulting in about 100-fold elevated serum concentrations. These results let us suggest beta-trace may become a useful novel diagnostic protein in renal diseases.

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Lipocalin-Type Prostaglandin D Synthase in Essential Hypertension
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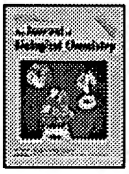

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J. Biol. Chem., November 20, 1998; 273(47): 30985 - 30994.
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